

## **Private Remote Sensing License Public Summary**

On, Feb. 20<sup>th</sup>, 2004, the National Environmental Satellite, Data and Information Service of the National Oceanic and Atmospheric Administration, an agency of the Department of Commerce, granted a license to Northrop Grumman Space and Mission Systems Corp., One Space Park, Redondo Beach, CA 90278, (310) 812-4321, <http://www.st.northropgrumman.com>, to operate a private, commercial, space-based, remote sensing system named "Continuum."

Continuum will be comprised of two satellites, each capable of collecting imagery with best resolution of 0.5-m. Continuum is designed to provide extended access duration, up to 40 minutes per vehicle, multiple times per day over northern latitude areas of interest. Interactive tasking of the satellites and rapid product delivery enable time critical event monitoring. Continuum represents a transformation in US commercial imaging capability and the latest in four decades of participation by Northrop Grumman in the earth remote sensing market.

In order to achieve increased access duration and revisit frequency, the satellites will operate in elliptical sun-synchronous orbits with high inclination angles. High quality imagery from this orbit will be enabled using a commercial derivation of the James Webb Space Telescope design, currently being built for NASA. The large field of regard provided by the orbit altitude is exploited by the ability to rapidly re-point the line of sight creating an extremely efficient system for imaging from space. An on-board forward looking weather sensor allows surgical imaging around potential cloud cover.

Products from Continuum include hi-resolution visible imagery, 4-band multi-spectral imagery and sequential frame video. Continuum satellites will utilize the Global Positioning System for ephemeris determination, providing real-time absolute position knowledge to 2.0-m one sigma and post ground processing to less than 1.0-m one sigma about each axis. A stellar inertial reference system is employed to provide pointing knowledge better than approximately 2 micro-radians.

Imagery data from the satellites will be relayed, or direct down-linked, to the Continuum Central Missions Operations Center (CMOC) in Redondo Beach, California USA as well as to ground receptors operated by Continuum Regional Affiliates in the United States, and will be sold primarily to a USG agencies as well as to commercial private and public sector customers. All command, telemetry and mission image data transmission to the CMOC are compliant with the current Ka-Band frequency allocation or to any subsequent allocation at the Ka frequency band for image data transmission.

Continuum's two satellites will be launched on Boeing Delta IV MEELV class or equivalent vehicle from Vandenberg AFB.

For further information please contact, Sally Koris at Northrop Grumman Space Technology, One Space Park, Redondo Beach, CA, 90278, (310) 812-4721 or at [Sally.Koris@ngc.com](mailto:Sally.Koris@ngc.com).